

ORIGINAL

DOCKET FILE COPY ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

RECEIVED

FEB 16 1994

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In re Matter of)
)
Implementation of Section 17)
of the Cable Television)
Consumer Protection and)
Competition Act of 1992)
)
Compatibility Between)
Cable Systems and Consumer)
Electronics Equipment)

ET Docket No. 93-7

To: The Commission

**REPLY COMMENTS OF THE
NATIONAL CABLE TELEVISION ASSOCIATION, INC.**

Daniel L. Brenner
Loretta P. Polk
National Cable Television
Association, Inc.
1724 Massachusetts Avenue, N.W.
Washington, D.C. 20036
(202) 775-3664

Wendell H. Bailey
Vice President, Science & Technology
National Cable Television Association, Inc.

Brenda L. Fox
Dow, Lohnes & Albertson
1255 Twenty-Third Street, N.W.
Washington, D.C. 20037
(202) 857-2611

February 16, 1994

No. of Copies rec'd
List ABCDE 09

TABLE OF CONTENTS

	<u>Page</u>
SUMMARY	ii
I. DESIGN OF THE DECODER INTERFACE MUST BE SUFFICIENTLY FLEXIBLE TO ENABLE WIDESPREAD USE	4
A. The Proposed Decoder Interface Will Accommodate Developing Services And Technologies	5
B. Digital Transmission Standards Are Achievable	6
II. PERMITTING SEPARATE CHARGES FOR COMPONENT DECODERS WILL BEST SERVE COMPATIBILITY GOALS ..	8
A. The Act Requires that Equipment Installation and Lease Charges Be Based on Actual Cost	9
B. Prohibiting Separate Equipment Charges Will Generate Adverse Policy Incentives	12
C. Cable Operators Should Not Be Forced to Recover Equipment Costs Through Programming Rates	13
D. Cost Recovery for Component Decoders Cannot Be Held Hostage to Preferences for "In The Clear" Techniques	14
III. COMPATIBILITY STANDARDS MUST ACCOMMODATE EFFECTIVE SECURITY TECHNIQUES	15
IV. APPLICABILITY OF CABLE-READY RULES	18
V. CONCLUSION	20

SUMMARY

The equipment compatibility provisions of the Cable Consumer Protection and Competition Act of 1992 raise difficult and complex issues, and the Commission has generally resolved these issues in a workable and reasonable manner. The comments submitted in this proceeding confirm that this is the case, but also confirm the need to modify certain specific proposals.

There is widespread support, for example, for most of the Commission's proposed short-term measures, but equally widespread concern that one of those measures is unworkable and needs to be changed. Specifically, it is impractical and unnecessary to require cable operators to provide subscribers with detailed information on the availability of particular compatible remote control units at particular retail outlets. The proposal of the Cable-Consumer Electronics Advisory Group — which would provide subscribers with identification of the models of equipment used by their systems, along with a compilation of telephone numbers of various manufacturers and/or suppliers — is an effective and more workable way of enabling subscribers to shop, in an informed manner, for compatible equipment.

With respect to long-term measures, the Commission's proposal to require the inclusion of a "decoder interface" in cable-ready television receivers and VCRs is a good one, which has received universal support in the comments. While some parties have expressed concerns that such an interface might not be appropriate for use with distribution technologies other than cable or might impede the introduction of new services, the particular interface proposed by the Advisory Group presents no such problems. Indeed, by monitoring developments and new services - -

including digital transmission — the cable and consumer electronics industries should be able to ensure that the decoder interface can accommodate technological developments without ever requiring the reintroduction, on sets with decoder interfaces, of set-top converters.

The Commission should, however, reject its proposal to require that component decoders be supplied to subscribers at no charge. This proposal is at odds with the rate regulation provisions of the Cable Act, which direct that equipment that is used to receive basic service be provided at rates based on actual cost. The Commission has already ruled that set-top converters are to be leased at actual cost (plus a reasonable profit), and there is no basis for treating component decoders otherwise. Indeed, requiring that they be provided at no charge would unfairly force subscribers who do not own new, interface-equipped television sets and VCRs to subsidize the decoders provided to those who do — while also paying for their own set-top converters.

There is no need to provide subscribers with additional incentives to buy interface-equipped TVs and VCRs by requiring that they be provided free of charge. Even at a charge based on actual cost, the component decoder will cost less than a set-top converter and will not disable any of the functions disabled by the converter. Moreover, disallowing any charges for decoders will not result in more widespread use of "in the clear" techniques, because such techniques simply are not feasible, on a widespread basis, at this time.

The Commission's proposal to disallow scrambling of basic services requires the addition of a safety valve for those cases where theft of service presents such a potential problem that scrambling, even of the basic tier, is a practical necessity. The waiver approach proposed by the Advisory Group would be a good solution to this problem. The problem of signal theft must, of course, be a significant concern in designing equipment compatibility rules. Proposals that would place descrambling circuitry in the receiving equipment rather than in the component decoder ignore the substantial costs that such an approach would impose in the case of breaches or defeat of the scrambling technology. Under such an approach, subscribers would have to replace their TVs and VCRs, instead of simply having their decoders replaced or altered.

Finally, the Commission has proposed that all equipment intended for connection to cable systems be equipped with decoder interfaces and meet the Commission's standards for cable-ready equipment. The Advisory Group had proposed that only sets specifically marketed using terms like "cable ready" meet these requirements. The Commission's proposal highlights a potential problem with the Advisory Group's approach. Specifically, the benefits of the component decoder approach in ensuring equipment compatibility will only accrue if, in fact, sets incorporating decoder interfaces are available. Therefore, if the Commission agrees to apply its interface requirements only to sets marketed as "cable ready", it should ensure that such sets are manufactured and genuinely available in sufficient number for purchase by cable subscribers.

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In re Matter of)
)
Implementation of Section 17)
of the Cable Television)
Consumer Protection and)
Competition Act of 1992)
)
Compatibility Between)
Cable Systems and Consumer)
Electronics Equipment)

ET Docket No. 93-7

To: The Commission

**REPLY COMMENTS OF THE
NATIONAL CABLE TELEVISION ASSOCIATION**

The National Cable Television Association, Inc. ("NCTA") has been working diligently with representatives of the Electronic Industries Association to identify ways to achieve improved compatibility between cable system technology and consumer electronics equipment made to receive cable services. Working together as the Cable-Consumer Electronics Advisory Group ("Advisory Group"), representatives of the two associations submitted joint recommendations to the Commission in initial comments in this proceeding. Implementation of Section 17 of the Cable Consumer Protection and Competition Act of 1992 ("Cable Act") raises complex and difficult questions. As the Advisory Group stated in its initial comments, the Commission's proposals represent a reasoned and generally workable approach for addressing and

resolving the complexities of Section 17. The Advisory Group went on to identify and address a few areas in which its recommendations and those of the Commission differ. The comments filed by others in this proceeding underscore both NCTA's continued support for the overall thrust of the Commission's proposals and the importance of modifying those concepts in certain respects.

The record generally supports the Commission's call for short-term measures that can "provide a significant degree of improved compatibility" and for longer-term measures that will produce "more substantial improvements in compatibility through the introduction of new cable and consumer electronics equipment."^{1/} One of the short-term measures proposed, however, was viewed by most parties as problematic. Specifically, there was virtually uniform recognition of the need to change the proposed requirements regarding specific cable operator responsibilities for providing subscribers with detailed information on the availability of particular models and/or retail sources for compatible remote control units.^{2/} Like the Advisory Group, many parties pointed out the complications and confusion that

1/ **Compatibility between Cable Systems and Consumer Electronic Equipment, Notice of Proposed Rulemaking, ET Dkt. No. 93-7, FCC 93-495 (released December 1, 1993) ("Notice") at ¶ 2.**

2/ **Comments of local regulatory authorities opposed requirements that operators provide specific information regarding local retailers. See Comments of the City of New York at 7; Comments of the Sacramento Metropolitan Cable Commission at 7.**

would result from good faith efforts to identify specific "models" of compatible equipment.^{3/}

NCTA urges the Commission to heed those concerns and amend its consumer notification proposal. The Advisory Group proposed that cable operators provide information that will educate consumers about differing types of remote control units. The cable and consumer electronic manufacturers agreed to work together to compile names and telephone numbers of manufacturers and/or marketers of remote control units.^{4/} That information, coupled with lists of manufacturers and model numbers of converter boxes supplied at the time by the operator,^{5/} would enable consumers to choose wisely and to achieve desired levels of equipment compatibility. While these lists should be comprehensive, the Commission needs to clarify that operators have no liability for unintended omissions. The Advisory Group's proposal deals with the concerns raised by others in this proceeding and, importantly, involves both the cable and consumer electronics industries in making sure that cable subscribers gain access to information necessary for informed decision-making.

3/ See e.g., Comments of Cablevision Industries Corporation at 2-3; Comments of Cablevision Systems Corporation at 8-9; Comments of Continental Cablevision, Inc. at 14-16; Comments of Joint Filers at 12.

4/ Comments of the Cable-Consumer Electronics Advisory Group ("Advisory Group") at 7.

5/ Comments of Advisory Group at 7, n. 23.

Commission's proposals. Like many of the other commenting parties, however, we take issue with the notion that cable operators be prohibited from charging separately for the new component descramblers. The record also evinces some concerns that the timely development of a decoder interface and the transition to digital television could prove problematic. The remainder of these reply comments will address those and related issues.

I. DESIGN OF THE DECODER INTERFACE MUST BE SUFFICIENTLY FLEXIBLE TO ENABLE WIDESPREAD USE.

The comments generally support the proposed adoption of rules mandating inclusion of a "decoder interface" in all future cable-ready television receivers and VCRs. None opposed this proposal. There is also general agreement that the definition of "cable-ready" must apply equally well to TV receivers, VCRs and non-scrambling set-top converters sold to subscribers.^{6/} The interface is seen as a workable and reasonable means to facilitate the compatibility required by Section 17. Concerns were raised, however, regarding the timeliness of adopting standards^{7/} and the widespread usefulness of that standard over time.^{8/} The comments and attachments of the Advisory Group are instructive on both points.

^{6/} See Comments of Advisory Group at 11, n. 30.

^{7/} Comments of Multichannel Communication Services, Inc. ("MCSI") at 3.

^{8/} See, e.g., Comments of Bell Atlantic at 2-3; Comments of AT&T at 2-4; Comments of the Interactive Media Association at 2-4.

A. The Proposed Decoder Interface Will Accommodate Developing Services And Technologies.

Some progress has already been made towards the development of specifications for a hybrid analog/digital Decoder Interface, and the cable and consumer electronic manufacturers are committed to moving this process to completion within the time frame proposed by the Advisory Group. More importantly, the underlying goal of the Advisory Group is to identify those elements for inclusion in the specifications that will accommodate both today's technologies and services as well as those of the future. Understandably concerns have been raised by some that a particular interface might not stand the test of time^{9/}, that the presence of the interface might impede the introduction of new services,^{10/} or that an interface designed for connection to cable television might not be appropriate for use with other distribution technologies.^{11/} But as proposed by the Advisory Group, the design of the Decoder Interface, which is expected to include approximately 20 pins plus both RF and IF connectors, will provide the necessary avenues for new services whether transmitted in analog or modulated digital or baseband digital modes.^{12/} By

^{9/} See, e.g., Comments of General Instrument at 17.

^{10/} *Id.* at 19-22; Comments of Tele-Communications, Inc. at 22-24.

^{11/} See n. 8, *supra*. BellSouth takes a different approach. It seeks clarification that the compatibility regulations apply only to cable systems and not to providers of video dialtone services. Comments of BellSouth at 1-2.

^{12/} The interface specifications will provide a vehicle for two-way exchanges of information between the TV receiver or VCR and the component decoder. The return or "back channel" capability will be available for subscriber communication back through the receiver or VCR to the component decoder.

designing the point of compatibility as the juncture where the television receiver or VCR interface receives the pins of the companion component decoder, virtually any service or distribution technology can be accommodated without necessitating the re-introduction of a set-top converter box which might interfere with the display and other features of the subscriber's cable-ready receiver or VCR. While some parties have proposed limiting the functions of the component decoder to that of descrambling video signals,^{13/} such restrictions would have the perverse effect of rendering obsolete the very compatibility achieved by the interface as new services are developed.^{14/} We agree that it is critical that the Decoder Interface allow subscribers full access to programming and programming enhancements which are available with set-tops. Otherwise, subscribers would be forced to choose between accepting a set-top device to enjoy new services or service enhancements or forego those services.

B. Digital Transmission Standards Are Achievable.

Pacific Telesis describes the Advisory Group's timeline for achieving digital standards as "too ambitious."^{15/} NCTA understands their concerns and we appreciate the importance of approaching this issue cautiously. It was only after thoughtful and protracted discussion that agreement on the timeline was reached. As

^{13/} See, e.g., Comments of Circuit City at 5.

^{14/} See, e.g., Comments of General Instrument Corporation at 20-23.

^{15/} Comments of Pacific Telesis Group, Pacific Bell and Nevada Bell at 4.

noted in its comments, the Advisory Group recognizes fully that this is a challenging task. The Advisory Group, nonetheless, agreed to endeavor to identify and develop consensus technical recommendations for standards on transmission and, later, compression and a standard security interface system. The Advisory Group comments described some of the critical countervailing interests that must be taken into consideration.^{16/} We are particularly concerned that the effort to achieve standards quickly not outweigh the need to provide adequate opportunity for development of new ideas and technological improvements. With that in mind, we intend to undertake this important work diligently.

External forces will also play a role in leading the way towards timely recommendations for digital standards. NCTA has been actively involved in the Commission's proceeding to select standards for terrestrial broadcast of digital advanced television services.^{17/} Likewise, we will continue to monitor the efforts underway by the Moving Pictures Experts Group (e.g., MPEG-1, MPEG-2) and others, both nationally and internationally, to develop digital standards. Whether

^{16/} See Comments of Advisory Group at 22-23.

^{17/} NCTA does not, however, agree with the comments of Mitsubishi Electronics that digital standards should necessarily be linked to the final standard for terrestrial broadcast advanced television. Comments of Mitsubishi Electronics America, Inc. On Notice of Proposed Rule Making at 2, 7-9. While hopeful that hierarchical relationships between broadcast and cable standards will prove to be feasible, NCTA would oppose adoption of standards which fail to maximize cable television's technical capabilities and efficiencies. If standards adopted for broadcast television are inadequate, cable television will be left with no choice but to develop unique standards that optimize its own technology.

directly transferable to our needs or not, the ground already covered by these various on-going efforts will not need to be revisited and, hopefully, their work may prove particularly beneficial to our own efforts.

The world of digital television is evolving quickly and it is important that its various participants have ample opportunity to continue to develop new services before rigid standards are put in place. Even though Congress did not instruct the FCC to adopt rules concerning compatibility for a digital environment, NCTA appreciates and supports these efforts to ensure long term compatibility. The beauty of the Decoder Interface is its inherent adaptability: it will enable cable subscribers to enjoy the conveniences of compatibility even at a time when providers of digital services are continuing to develop and test new ideas. As more becomes known about ways to work with digital techniques, a marketplace or working consensus will evolve and provide the basis for more formal standards.

II. PERMITTING SEPARATE CHARGES FOR COMPONENT DECODERS WILL BEST SERVE COMPATIBILITY GOALS.

The Advisory Group was not alone in opposing the Commission's proposal that cable operators be prohibited from separately charging subscribers for the lease or installation of component decoders. Only the City of New York supported the proposal, saying that while it was "concerned about apparent inconsistencies" in rate treatment, it found the Commission's approach "entirely

reasonable."^{18/} Other commenting parties spoke out forcibly in opposition to the "no separate charge" proposal.

A. The Act Requires that Equipment Installation and Lease Charges Be Based on Actual Cost.

Opponents of the "no separate charge" proposal addressed the regulatory inconsistencies between treatment of component decoders and other equipment in the home. BellSouth Telecommunications, Inc., for example, pointed out that regulations governing local exchange carriers would require separate charges for such customer premises equipment.^{19/} As was pointed out by Cox Cable Communications and Newhouse Broadcasting, the Commission is not empowered to

^{18/} Comments of the New York City Department of Telecommunications And Energy at 12. The city's suggestion that subscribers should not pay for equipment necessary to secure cable system security because system security is of benefit only to the cable operator is clearly at odds with the findings of Congress that underlie both its insistence that efforts to achieve equipment compatibility be consistent with the need to prevent theft of cable services (Section 624A) and the provisions of the 1984 Cable Act prohibiting the unauthorized reception of cable service (Section 633).

Congress has long understood the importance of erecting barriers to protect against unauthorized access to programming. The costs of cable services to all subscribers necessarily increases when the number of paying subscribers is diminished because of the ease of theft of service. Barriers against unauthorized access protect the rights of artists and creative contributors and benefit the subscriber by assuring a continuing availability of quality programming. (The City also proposes that while operators be permitted to charge for supplementary equipment used to provide short-term compatibility but not for installations of such equipment. *Id.* at 5.)

^{19/} Comments of BellSouth at 2.

"depart" from the statutory requirement to unbundle charges for installation and lease of equipment used to receive basic cable services.^{20/} NCTA agrees.

Nor can the Commission overcome this statutory hurdle by means of a tortured definition of the term "equipment." The Commission's rate regulations ensnare converters used by subscribers even where necessary only to receive premium services simply because basic signals pass through the unit for display on the subscriber's receiver.^{21/} Having adopted an expansive reading of the statutory language in Section 623 in order to encompass virtually all converter boxes supplied by the cable operator, the Commission cannot here exclude from that family of regulated equipment set-back plug-in modules that are likewise used to receive basic cable services. As noted by General Instrument Corporation in its strong opposition to the disparate treatment of component decoders and set-top boxes, both units perform essentially identical functions.^{22/}

By insisting that this equipment be treated as "elements of the general cable network," moreover, the Commission is dictating that individual or subscriber-specific costs be borne by the system generally. As pointed out by the Advisory Group,^{23/} the perverse and anti-consumer consequences of the Commission's

^{20/} Comments of Cox Cable Communications and Newhouse Broadcasting Corporation at 4.

^{21/} Report and Order, MM Docket 92-966, ¶283.

^{22/} Comments of General Instrument Corporation at 23-24.

^{23/} Comments of Advisory Group at 19.

proposal is that all subscribers, without regard to whether they own new cable-ready TV receivers, will be forced to subsidize the costs of component decoders through higher regulated service rates.^{24/} This misallocation of costs mandated by the Commission's call for the provision of "free" component decoders will become particularly troubling with the introduction of more costly digital units.^{25/}

The key fact is that many subscribers will continue to rely upon older consumer electronic equipment linked to the cable system by a set-top converter whose monthly regulated cost is greater than the projected monthly cost for component decoders. There is no reason why these subscribers should bear the costs of their own set-top converters and the component decoders used by owners of newer sets. A number of commenting parties recognized that the proposal for "no separate charge" has the potential of creating subsidies for more affluent subscribers at the expense of the less well-off who might not be able to afford new cable-ready equipment.^{26/}

^{24/} Id.; See also, Comments of Time Warner Entertainment Company, L.P. at 13-14, Comments of Continental Cablevision, Inc. at 5-7, and Comments of Cox Cable Communications and Newhouse Broadcasting Corporation at 10-12; Comments of Cablevision Industries Corporation at 12.

^{25/} Comments of Joint Filers at 16. Cablevision Systems suggests that forcing operators to provide equipment for which the operator cannot adequately recover costs raises constitutional concerns. See, Comments of Cablevision Systems Corporation at 14, n.37.

^{26/} See e.g., Comments of Continental Cablevision, Inc. at 7.

B. Prohibiting Separate Equipment Charges Will Generate Adverse Policy Incentives.

If separate equipment charges based on the actual cost of the new component decoder are permitted, it is expected that monthly rates for those units will be lower than those for set-top converters. Moreover, elimination of the need to rent remote control devices will result in additional savings. Besides the consumer conveniences attributable to eliminating set-top boxes and special remote units, these monthly savings should provide positive incentives for subscribers who can afford to do so to purchase new cable-ready equipment.^{27/} The Advisory Group foresees that these cost savings coupled with the cable industry's willingness to provide free installation of the first component decoder in each home will provide valuable inducements for subscribers to invest in new, compatible equipment and expect the savings will more than off-set the cost differential for purchase of that equipment.^{28/}

On the other hand an unintended consequence of imposing a "no separate charge" policy will be the destruction of incentives to produce and sell more fully integrated digital consumer equipment at a later date when digital standards are established. If the digital modular plug-in devices are made available at no charge by the cable operator, consumers would find little or no advantage in purchasing newer, more fully integrated equipment. Ideally that equipment would further the

^{27/} *Id.* at 7-8. Zenith cautioned that prohibiting separate charges "would be a disincentive to cable operators to promote the device." Comments of Zenith Electronics Corporation at 4.

^{28/} Comments of Advisory Group, *supra* at 17.

improvements in compatibility achieved via the hybrid analog/digital decoder interface and a cable-supplied digital component decoder module. Where there is no identifiable charge associated with the cable-supplied digital component decoder, however, there is no perceived savings for the consumer in having elements of that unit (and their associated costs) integrated into the TV receiver or VCR (for which the consumer will likely pay a premium). In this artificial environment, the movement to more integrated digital equipment would be frozen to the detriment of consumers and consumer electronic manufacturers.

C. Cable Operators Should Not Be Forced to Recover Equipment Costs Through Programming Rates.

If the costs of component decoders cannot be recovered directly through equipment charges assessed directly to the subscriber using the equipment, those expenses must be recovered (and recoverable^{29/}) through fees for cable programming services. A number of commenting parties addressed this issue in some detail. The comments offered by Cox Cable Communications and Newhouse Broadcasting Corporation are particularly instructive. Once it is determined that these so-called network costs are to be spread across all subscribers, the Commission's benchmark rate regime, which is based on assumptions of general network costs incurred as of September 30, 1992, is rendered inapplicable. As Cox and Newhouse point out, these costs are not likely recoverable as "external costs" which may be

^{29/} See discussion offered by Cablevision Systems concerning constitutional considerations raised by the Commission's proposal, supra at 14, n. 37.

passed through automatically as rate adjustments.^{30/} That leaves burdensome cost-of-service proceedings as the only available means for recovering these new, federally mandated costs.

Cost-of-service proceedings are not only burdensome, they are likely to be costly — both in terms of the resources that will be needed for the proceedings and in terms of the delays operators will likely incur gaining recovery of these new equipment costs. As a matter of policy, moreover, the Commission can hardly expect cable operators to entertain consumer education programs designed to encourage purchases of new, cable-ready equipment when such purchases will have adverse consequences for operators and likely result in higher rates for cable subscribers.

D. Cost Recovery for Component Decoders Cannot Be Held Hostage to Preferences for "In The Clear" Techniques.

The Advisory Group and others also took issue with the Commission's preference for bundled rates as an inducement for cable operators to adopt an "in the clear" signal delivery method.^{31/} As the Advisory Group made clear, penalizing cable operators in their ability to recover their costs "will not cure the problems or change the limiting characteristics of particular in-the-clear approaches." The Commission rightly determined that none of the "in the clear" technologies is appropriate for universal deployment. Nothing in the record to date, including

^{30/} Comments of Cox Cable Communications and Newhouse Broadcasting Corporation at 7-9.

^{31/} Comments of Advisory Group, *supra* at 18. See also, e.g., Comments of Cox Cable Communications and Newhouse Broadcasting at 12-16.

comments submitted by Multichannel Communication Sciences, Inc., demonstrates the widespread feasibility of those technologies.^{32/} More importantly, as the Advisory Group made clear, these technologies will likely become even less appealing with the advent of digital technology.^{33/} Nor is it, in any event, at all appropriate for the Commission to devise a regulatory scheme under which cost recovery of mandated equipment is rendered so difficult that operators must resort to adopting new and largely untested technologies.

III. COMPATIBILITY STANDARDS MUST ACCOMMODATE EFFECTIVE SECURITY TECHNIQUES.

The Commission's primary responsibility in this proceeding is to prescribe the means of "assuring compatibility between televisions and video cassette recorders and cable systems, consistent with the need to prevent theft of cable service, so that cable subscribers will be able to enjoy the full benefits of both the programming available on cable systems and the functions available on their televisions and video cassette recorders."^{34/} One of the techniques most commonly employed by cable operators to prevent theft of cable service is the scrambling of

^{32/} Cablevision Systems, which sometimes uses "in-the-clear" techniques, including interdiction, describes some of the short-comings of these alternatives to scrambling or the use of addressable technology. See Comments of Cablevision Systems Corporation at 14-16.

^{33/} Comments of Advisory Group at 18-19; Comments of General Instrument Corporation at 28.

^{34/} 47 U.S.C. § 624A(b)(emphasis added).

establish a procedure for considering particular situations on a case by case basis. The Advisory Group's proposal for expedited adjudication of waiver requests, with varying burdens of proof according to whether the waiver involves mandatory or non-mandatory signals, addresses each of the concerns raised in comments.

Signal theft techniques also are at issue with respect to adoption of long term compatibility standards. A number of comments called for the inclusion of signal security circuits in new cable-ready TV receivers and VCRs. Such renewable security proposals may be appealing at first blush, but too many unresolved problems remain that prevent their being taken seriously at this time.

Mitsubishi Electronics, for example, proposes that the Commission require the joint engineering committee to incorporate into recommendations for the decoder interface a "software-carrier conditional access system" or National Renewable Security System.^{39/} One might think, from reading those comments as well as those of the Titan Corporation, that efficient, workable, and proven renewable security systems are now available — but they are not. Missing from those comments is any analysis of the costs associated with breaches in security. Once control circuits are installed in the TV receiver or VCR, costs associated with future change-outs will need to be borne by someone.

A primary advantage to consumers of cable operator ownership of descrambling circuitry is that if the shielding system is compromised, the cable

^{39/} Comments of Mitsubishi, *supra*, at 13.

cable services. The scrambling of cable services raises both short-term and longer-term compatibility considerations.

As part of its approach for improving compatibility in the short-term, the Commission proposed that scrambling of signals on the basic tier of service be prohibited. A number of comments, including those of the City of New York, endorsed that proposal;^{35/} others, including some of the cable operators,^{36/} opposed the idea, favoring instead operator discretion to scramble or not.

In its comments, the Advisory Group noted that scrambling of basic services is uncommon but that in communities where theft of service may be widespread, cable operators may need the flexibility to scramble.^{37/} High subscriber turnover in resort areas, seasonal subscription patterns and other factors also contribute to the need for secured basic services. Likewise, the inclusion of non-mandatory signals on the basic tier may necessitate the introduction of scrambling in some situations. The City of New York, however, opposes scrambling even if the prohibition will cause operators to remove the non-mandatory signals from the basic tier.^{38/} The Advisory Group presented a better alternative: the Commission should

^{35/} See also, Comments of Pacific Telesis Group, Pacific Bell and Nevada Bell at 3.

^{36/} See, e.g., Comments of Greater Media, Inc. In Response To Notice of Proposed Rulemaking at 4.

^{37/} Comments of Advisory Group at 4.

^{38/} See also, Comments of Pacific Telesis Group, Pacific Bell and Nevada Bell at 2.

operator bears the cost of replacing the electronics. The subscriber is not asked to discard the TV receiver or VCR containing that circuitry and buy new equipment with new secured circuitry to replace it. NCTA is concerned that the legitimate subscriber not be put in the position of needing to replace his TV receivers and VCRs to combat security breaches of signal pirates.^{40/} Proponents of renewable security systems dismiss these concerns with expressions of high levels of confidence that the circuitry will not be breached. Given the experiences to date, however, defeat is more likely than not.

While some have proposed "smart cards" with replaceable "keys," this circuitry is not the only link in the security system that is capable of being defeated. As a practical matter "security" can only be achieved where all of the electronics associated with the security system are also replaceable. While it is true that a special subcommittee of the joint engineering committee has been looking into this issue, there is no widespread, cross-industry support for moving ahead with this technology at this time. The proposed Decoder Interface better addresses this issue.

IV. APPLICABILITY OF CABLE-READY RULES.

The Advisory Group recommended that new rules prescribing technical standards for cable-ready or cable-compatible products should apply only to those products which are expressly claimed to be cable-ready. The Commission's Notice suggests a broader, more expansive application. The Advisory Group outlined the

^{40/} See also Comments of General Instrument Corporation at 38-40.

business considerations and consumer benefits associated with the continued availability of consumer equipment that have some, but not all of the characteristics which will be required for inclusion in cable-ready sets. A number of parties, however, agreed with the Commission that compatibility goals cannot be served where cable subscribers continue to purchase television receivers and VCRs that tune cable channels but are not otherwise "cable-ready." After all this effort to avoid the confusion and frustration over compatibility, these subscribers will need to continue to rely upon set-top converter boxes and, possibly other operator-supplied equipment that necessarily disable some of the features of TV receivers and VCRs.

NCTA appreciates the interests of consumer electronic equipment manufacturers in continuing to provide lower cost TV receivers for those who might not want to incur the costs of cable-ready sets. On the other hand, NCTA is also cognizant of policy considerations concerning improved compatibility over the long term and realizes that a serious imbalance arises if set manufacturers are not required to manufacture cable-ready equipment. As proposed by the Commission, once the new rules are in place, all TV receivers and VCRs that are intended for use with cable will be required to comport with the new technical standards, including the new Decoder Interface. All cable-supplied equipment will also be required to include an appropriate interface. Unless it is clear, however, that consumer products will be available in the marketplace, it makes no sense for cable operators to incur the costs of purchasing compatible equipment. And this is true regardless of the final resolution as to how the costs for that equipment is to be recovered.

Thus, if the Commission agrees to modify its position to permit the continued availability of non-cable-ready equipment that tune cable channels, there must also be a commitment by the consumer electronics industry, enforceable by the Commission, to produce and make available for sale, fully cable-ready equipment. That commitment might take many forms. It might be established, for example, that all television receivers of some specified minimum screen size and number of channels be fully cable-ready. Alternatively, minimum production requirements of cable-ready sets might be described as a percentage of sets manufactured or distributed according to screen size or other characteristic. Yet another alternative might be to prohibit the manufacture or distribution of television receivers that offer picture-in-picture or other features that may be disabled by cable converters where such equipment tunes cable channels but is not otherwise cable-ready.

V. CONCLUSION.

The Commission's approach to implementing the equipment compatibility provisions of the Act is generally reasonable and workable and, except as discussed herein (most notably with respect to rental charges for component